

An  
Inaugural Essay  
on  
Hydrocephaly,  
submitted  
to the Provost and Medical Faculty  
of the University of Pennsylvania,  
for the degree of M. D.  
by  
Francis Lightfoot Lee  
of  
Virginia  
1822

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by the Faculty  
March 9th 1822

*Zanthoxylum*

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## Hydrothorax or Dropsy of the Chest.

A pathological collection of a serous fluid into any cavity of the body has been termed a dropsy.

The disease however presenting different appearances and requiring different modes of treatment as it occurs in one or another part, physiologists have added to the general term dropsy, others denoting each particular modification of it. Thus we have Anasarca or general dropsy - Ascites when the collection takes place within the cavity of the Abdomen, and Hydrothorax, or as it is sometimes called Hydrocephalus Pectoris, when within that of the Chest.

To the last form of the disease my observations in the following epigramm are chiefly directed. I say chiefly, for I am unavoidably led to make many remarks

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particularly when treating of its Pathology,  
equally applicable to every form of the disease.

The term Hydrothorax is de-  
rived from two Greek words signifying water  
and chest.

Causes. The remote causes of Hydrothorax of  
the Chest are generally such diseases as  
by their long continuance or severity pro-  
duce chronic or acute affections of some of  
the great viscera of the body, such as Inter-  
mitting fevers, Jaundice, asthma, Pulmonary  
consumption, Pneumonia &c. Gout, and long  
habitual indulgence in intemperance by  
weakening the powers of the Stomach, and  
through it the system, generally produce  
that condition of it, which Authors have  
termed the Cachetic, and which has been  
considered one of the most prominent  
causes of this disease.

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perhaps been the subject of more controversy than the proximate cause of dropsy. To any one acquainted with Physiology or Anatomy the fact is notorious that when the body is in a perfectly natural and healthy state, the exhalent vessels are continually pouring out a serous or watery fluid into every cavity of it, which is as quickly taken up and removed by the absorbents. This being the fact, and no one will deny that it is yet, we must consequently look to a loss of balance between the two as a cause of dropsy. This perhaps is all that is necessary to be known as all agree that it is to the absorbents we are to direct our attention and remedies. Physiologists have however gone further, and have endeavoured to ascertain which of the two were in fault, some contending that it is a loss of action in the absorbents, others an increase of it in the

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whence. Not considering myself capable of offering an opinion on this subject I shall only state that the latter, I believe, is the one generally received by the Practitioners of our Country. Almost all agreeing, as I have already mentioned, that our attention and remedies are to be directed to the absorption, we might naturally conclude that aided in their views by the numerous and diversified articles which the Mat. Med. affords calculated for the purpose, the Practitioners of Medicine might have encouraged Scrofula of the chest under equal advantages with other diseases. This however is far from being the case, and is to be attributed in a great measure to the want of attention to the state of the system with which it may be associated. Whilst the English writers almost without exception have considered Scrofula to be dependent on a cachetic or antiphlogistic dia-

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thisis, those of our own country on the contrary have almost as universally held it to be a disease of high action or phlogistic character. As is sometimes the case the truth here lies in mediis for although it is unquestionably often, and perhaps most frequently associated with the latter condition, yet it may sometimes occur in an opposite one. To what else indeed than that can we look for an explanation of the curious fact, mentioned particularly by Cullen that divers medicines which sometimes act most specifically, do not at all answer in other instances the end wished for. The Humoral Pathologists were aware of this circumstance, and endeavoured to explain the condition of the habit by particular names answering to that condition. Hence the terms leucophlegmnia, cachexy &c. These however in consequence of the fanciful the-

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ries with which they were connected have fallen into disease. Dr. Blackall a Physician of great eminence who has written one of the best works extant on Scrofula has directed my attention to the state of the urine as a test. From a number of experiments he was led to the following conclusions. That when it is coagulable like the serum of blood by heat or nitric acid it indicates increased action, when differing from that of health in nothing but the smallness of quantity discharged it on the contrary indicates enfeebled action. That denoting diseased viscera is high coloured, and scanty, depositing a copious red sediment but not at all affected by heat or nitric Acid. That the state of arterial action may influence that of the urine is highly probable, and from the respectability of the author we may justly conclude it is worthy of trial.

and the two sides of the diaphragm  
are smooth and white as butter.  
With a few strokes of the scalpel  
the skin is easily removed  
and the smooth white  
muscular fibres of the muscle  
are exposed. During the operation  
the patient breathes and an  
anæsthetic drug is given which induces  
no such a quietness. There is  
a risk of suffocation which may  
arise from the fact that the  
lungs are filled with air. The  
operator must be very  
careful in his movements.

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Symptoms. There is occasion to believe that Hydrothorax may be forming for a number of years without occasioning any suspicion of the real nature of the disease. It usually commences with some degree of pain or uneasiness about the Epigastrium accompanied by a difficulty of breathing on any exertion, such as walking up an eminence or stairs. A dry hard cough is not an unfrequent attendant on this stage of the disease. These symptoms however in time, in some instances shorter others longer, increase in severity and frequency, returning upon the slightest motion of the body, or emotion of the mind. The patient is sometimes unable to place himself in a recumbent posture, and if he should be lying upon one side may be more comfortable than on the other, or on the back than either, owing to the effusion having taken place in one or other

act of the bowels  
passes liquid  
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and laborious.  
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ack of the Pulse, or in both - The face has a  
pawky livid appearance particularly the mouth  
and nose, and upon any excitement becomes  
black and swollen - The breathing is hurried  
and laborious in some instances attended with  
great pain and calling the whole of the ab-  
dominal muscles into action - The cough is  
now followed by copious expectoration in some  
instances streaked with blood - The urine is  
for the most part considerably diminished  
in quantity, with some edema of the  
lower extremities. If the pulse be examined it  
will be found to be quick, active, and irregu-  
lar or intermitting with, in some cases, violent  
palpitations of the heart. To these symptoms  
there is one not unusually added which doc-  
tors have termed Syncope, that is, when  
the patient has fallen into repose he is rous-  
ed by a sense of suffocation which compells  
him immediately to place himself in an

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out posture. Dr. Cullen remarked that he had never seen this symptom attending any other affection of the chest, and that when it was added to others particularly the difficulty of breathing and adenœus feet he had no doubt in concluding the existence of water in the chest.

Diagnosis. There are several diseases with which drooping of the chest may be confounded, such as Angina Pectoris, asthma, spasmodic movements of the heart and large blood-vessels and some affections of the stomach. From these however it may be distinguished by a careful examination into the history of the case. Two symptoms however have been mentioned as Pathognomonic. By Cuvier we are told that if while the patient is quiet we place one hand on the side of the Thorax and strike on the opposite side with the other a fluctuation may be perceived. Bichat has also informed us

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that by placing the Patient in a recumbent posture and pressing upon the Epigastrium great uneasiness or pain will be produced.

**Prognosis.** The prognosis in this disease is difficult and unfavourable. So much so indeed that although the older writers appear to have been well acquainted with the history and appearances on description still they have left us very little to hope or expect as regards the cure. Even Cullen himself seems to have been of this opinion as he states that it seldom admits of a cure or even of alleviation from remedies. Yet I am happy that I have high authority for stating that Hydrothorax under favourable circumstances and treated in the manner I shall hereafter endeavour to lay down is as ~~remediable~~ as the other forms of Dropsey particularly Ascites.

**Treatment.** The first object which generally demands our attention in the commencement of the treatment of Hydrothorax is the reduction of Arterial action.

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The best mode of doing which is venesection - to be repeated as often as the pulse and pain in the breast would warrant. Cupping is an excellent auxiliary to the lancet, and is even preferred to the lancet by some; they should be always applied to the back. Together with these remedies a blister should be applied to the chest and kept discharging for some time. If by these means a cure cannot be accomplished the next remedies to be resorted to are diuretics, and of these the nitrate of potash in the commencement is to be preferred. The Quill alone or in combination has also been long consecrated to this purpose. Some difference of opinion however has existed as to the mode in which it should be exhibited. Dr. Cullen supposed if it was given in such doses as to affect the stomach or bowels its diuretic properties were destroyed. Hence on the contrary maintained that it should be given as to actively operate on the stomach. In reference to this controversy I do not know that Dean Dobell - to than quote the words of Dr. Chapman solu-

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other to it. He remarks "The point in dispute is not whether emetics or purgatives are useful in dropsy, but whether the peculiar powers of the Squill in these cases are best attained by pushing the medicine to this extent. He further adds that judging from his own experience a slight degree of nausea is the just medium in its employment nor is this absolutely necessary as he has seen it act most beneficially without having the slightest effect upon the stomach. Dr. Chapman's mode of administering it is in combination with calomel in the following proportions.

R. Squill 3 grs.

Calomel 1 gr. to be taken morning and night or oftener pro re nata.

As nearly allied to the squill in many of its properties the garlic has been tried, and found highly useful.

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particularly where the disease has been brought on by intemperance.

No article of the Materia Medica has ever, perhaps, had greater praise bestowed upon it than the Digitalis as a remedy in every form of dropsy. Dr. Hamilton who has written a treatise on it, has however gone farther in its praises in the particular form of the disease under consideration than any other writer with whom I am acquainted. He declares that after he "adopted the effusive use of this medicine in such cases I never have seen one, however advanced, or desperate, that was not speedily relieved by it; indeed it has, in such distressing instances, appeared possessed of powers infinitely beyond what could have been hoped from any medicine whatever, and almost approaching to certainty of effect. Happily indeed would it be for mankind could the Practitioners of medicine these easily subdue

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a disease long considered incurable and even now one of the most formidable we have to contend with. That it is sometimes useful I should act the part of a sceptic to deny, though I have reason to believe that it should never be employed to the exclusion of the Sanguinaria and Calomel. The Digitalis is now generally administered in three different forms substance, tincture and infusion. The dose of the first to commence with is about one grain, of the second five or six drops of the preparation called the saturated tincture is used, if that made according to the London Pharmacopœia double the quantity is necessary, and of the last a tablespoonful. These doses should be daily increased slowly watching their effects. If during their use a membranous, tensive pain of the head, often over one eye, they should be immediately withheld. Dr. Withering supposed that

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where there was much strength or action of the system remaining it was unfavourable to its use in which opinion he is generally followed. Emetics from their known efficacy in other affections of the chest, and their great power of promoting absorption might *a priori* be supposed useful in Hydrothorax. Being however generally considered a dangerous remedy they are seldom resorted to.

It has been made a question whether a patient should be indulged in drinks which an intolerable thirst accompanying this disease makes him very frequently desire. It is acknowledged by all physiologists that when water is taken into the system it being in a perfectly healthy state that it is thrown out again by some one of the excretaries. Some however have supposed that it has in some instances instead of being thus eliminated it has fallen into one of the cavities of the

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body and thus produced dropsy itself. Dr. Cullen on this subject remarks, that he has found an entire abstinence from drinks by throwing the serology vessels of the kidneys into a state of contraction further to diminish the quantity of urine discharged, and by that means increasing the effusion. He therefore lays it down as a rule, in which he is now generally followed, that when the quantity of water discharged is equal or nearly so to the quantity of water taken in, it will be advantageous to administer it freely. In support of his opinion we have the evidence of Drs G. Baker and J. Milman who have declared they have cured dropsy by this means. As to the kind of drinks water alone or combined with some of the vegetable <sup>seeds</sup> is to be preferred. The next object is to restore tone to the system, and thus prevent a return of the disease. Basil and the Chalybeates are

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usually selected for this purpose; though Dr. Blackall thinks there may be cases in which the bitter vegetable tonics will answer better.

One thing however should be observed never to commence their use too soon least they should reproduce the disease. If during the tonic course of treatment the disease should have a tendency to return it would be proper to commence again with the use of diuretics, and here the potash in combination with some of the bitter tonics as recommended by Dr. R. Pearson are to be selected.

Diet. With regard to diet during the convalescence it should be nourishing, but not stimulating or heating, and the patient should never be allowed to take much into his stomach at a time.

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